NOTES ON APHIDIDAE COLLECTED IN THE VICINITY OF STANFORD UNIVERSITY

By W. M. Davidson

This list is but a preliminary one, since the forms have been studied only during the past year. Doubtless there are many other species in the neighborhood which I have not collected. A few new species have been described, while certain others, showing affinities to described species but possibly new, have been left unnamed for the present. Two or three European forms not heretofore listed in catalogues from America have been observed, generally on imported plants.

Phylloxera vastatrix Planchon; *Vitis.*

Very abundant in a vineyard on the campus, doing much damage.

Chermes pinicorticis Fitch; *Pinus pinastu maritima.*

On the needles during the fall months.

C. coweni Gillett; *Pseudostuga douglasii.*

In large numbers on a young Douglas spruce.

Pemphigus betæ Doane; *Rumex occidentalis* (roots).

P. populicaulis Fitch; *Populus tricocarpa.*

Common on poplars in the fall, and in March when the stem-mothers were founding their colonies.

Colopha ulmicola Fitch; Elm.

Schizoneura lanigera Haus.; Apple.

Very common in apple orchards on the campus.

Lachnus viminalis Fonsc.; *Salix.*

Found in November on the bark of willow. A parasite, *Aphidius* sp., was reared in considerable numbers.

L. abietis Fitch; *Abies concolor.*

In large colonies in the fall on the limbs. No winged forms were seen.

L. pini-radiatæ sp. nov.; *Pinus radiatæ.*

Alate Female

Length of body 2.2 mm.; breadth of body .75 mm.; expanse of wings 7.2 mm.; antennal joints III .48 mm.; IV .28 mm. V .28 mm.; VI .23 mm. Very similar to the apterous female. Cornicles dusky, truncate, very short; cauda green, short, conical; antennæ very pilose, yellow, darker at the articulations of the joints; wings large; stigma greyish brown, long, narrow; basal half of

third discoidal almost obsolete, the two branches running parallel, but being very faint at their point of junction; veins brown, slender, except the second discoidal, which is robust; beak reaches second coxæ. Found on the needles of cultivated Monterey pines, both in the greenhouse and outside. The insect covers itself lightly with a gray flocculent coating. This species shows a certain similarity to *L. californicus* Essig, but is larger in all its measurements and has the antennæ larger in comparison to its length and lacks the red spots in the adult stage.

Apterous Female

With grayish pulverulence removed, dark green; length of body 2.40 mm.; breadth of body .95 mm.; length of beak .55 mm.; antennæ III .50 mm.; IV .25 mm.; V .25 mm.; VI .20 mm.; long, narrow towards the extremities; head dusky; eyes red; antennæ pale, half as long as body, hairy; the last joint and the articulations dusky; thorax and abdomen dark green; cornicles very short, truncate, dusky; cauda green, conical; legs long, especially the posterior pair, dark green; the femora and tibiæ are hairy; tarsi black; beak dusky, barely exceeding the third coxæ.

The young are wholly pale green, except the eyes and abdominal spots, which are pink. The last joint of the antennæ and tarsi are dusky.

Lachnus occidentalis sp. nov.; *Abies grandis.*

Apterous Female

Length of body 2.90 mm.; breadth of body 1.50 mm.; beak .90 mm.; antennæ III .35 mm.; IV .12 mm.; V .20 mm.; VI 18 mm.; dark green or brown; eyes red; antennæ one third as long as body, yellow, sixth joint dusky; head darker than abdomen, short; prothorax dark, with the suture yellow; legs yellow, hairy, the articulations and tip of tarsi black; abdomen broadly oval; cornicles lateral, conical, dusky at the tip; cauda very short, blunt; beak dusky, almost half as long as the body. The young are brown. This species lives in large colonies along the underside of the young shoots of *Abies grandis*. Their presence can be detected by a smoke-colored, flucculent matter, and by the blackening of the leaves from the association of a fungus with their excretions. Ants are always to be found among them, and they are preyed on extensively by a Syrphus fly. This louse occurs on *Abies grandis* in the fall and spring. Winged forms were not seen.

L. alnifoliæ Fitch; *Alnus.*

This large, green, rapidly moving species was taken on the alder in April.

Cladobius salicti Harris; *Salix.*

Taken on willow in November, both sexes.

C. rufulus, sp nov.; *Salix* sp.

Alate Female

Length of body 3.8 mm.; expanse of wings 11.25 mm.; antennæ III .60 mm., IV, .40 mm., V .40 mm., VI .25 mm., VII .27 mm.; head, prothorax and thoracic lobes grayish-black; prothoracic tubercles small, blunt; eyes dark;

antennæ two thirds as long as body, black, hairy, the base of third joint pale; legs black and pilose; basal part of femora green; tibiæ brown, with black apices; abdomen elongate oval, dusky orange, with seven transverse black bars on the dorsum. These bars are sometimes broken in the center and do not reach the lateral margins. There are on the abdomen lateral rows of black spots. Cauda short, pilose, orange, tipped with black; cornicles half as long again as the cauda, pale orange, with dusky tips, contracted for their basal third and again, slightly, at their tips; wings long, narrow; stigma gray, narrow, acutely pointed at the apex; subcosta and insertions dark; veins brown, third discoidal obsolete at its base; origin of second branch near the apex of the wing; beak just reaches posterior coxæ.

Apterous Viviparous Female

Length of body 3.3 mm.; breadth of body 1.5 mm. cornicles .4 mm.; dark green or in some specimens brownish; antennæ pilose, half as long as body, pale yellow, with joints dusky; eyes red; legs brownish yellow, tibial apices and tarsi black; cornicles yellow, slightly clavate, black at their tips; beak reaches first abdominal segment. The body is covered all over with short hairs. Found on the stems and leaves of Salix in April. This species is much attended by ants. A large parasite (*Dieretus*) was bred from infested specimens.

Chaitophorus sp. *Salix.*

A small black species found on the leaves and twigs of willow in April. Alate forms were not found. Length of body 1.80 mm.; breadth of body .9 mm.; head, thorax and abdomen black, with the exception of a median yellow line, which varies in width; body broadest near the posterior end; legs and antennæ grayish; antennæ thick, pilose, almost half the length of the body; III .3 mm., IV .17 mm., V .09 mm., VI .07 mm., VII .1 mm.; cornicles short, tuberculate, broader than long, pale; cauda short, pilose, black; beak exceeding second coxæ; pupa like larva; thorax and wing-pads green. In alcoholic specimens there appear light patches at the base of the cornicles and transverse rows of dots on the abdominal segments. Not having any alate forms, I will not venture to give this species a name, as it has possibly already been described.

Callipterus betulæcolens Fitch; *Betula.*

On the under side of leaves of birches in Palo Alto in May.

C. caryæ Monell; English Walnut.

This little species is very common on walnut trees on the University Campus. I found them in large numbers on the buds and unfolding leaves in March.

C. arundicolens Clarke; Bamboo.

Found sparingly on the under side of the leaves of the bamboo (*Arundo*) in October.

C. ulmifolii Monell; *Ulmus.*

Found in large quantities on the leaves of the elm (*Ulmus*) in the

fall months. A large percentage of the individuals are pinkish. This insect was scarce in the spring.

C. quercus (?) Kalt; *Quercus.*

On both the white oak (*Q. lobata*) and the blue oak (*Q. kelloggii*) I took a species of *Callipterus* having six tubercles on the dorsum. The species is green and is very similar to the *C. quercus* as described in Buckton's Monograph of British Aphides. This insect infests the under sides of the leaves in large companies. It was very common in April and May, though scarce in the fall.

C. tiliæ Linn.; . *Tilia.*

This European species was found sparingly on the leaves of linden trees.

Aphis brassicæ Linn.; Mustard.

Very common on the mustard (*Brassica campestris*), where it was abundantly parasitized by an *Aphidius.*

A. rumicis Linn.;

Common on ivy shoots in March; also taken on the vetch (*Vicia*) and *Senecio mikanioides.*

A. ceanothi Clarke; *Ceanothus cuneatus.*

This brown species was found in immense colonies on the tips of the shoots of the mountain lilac (*C. cuneatus*).

A. medicaginis Koch; *Medicago denticulata.*

Found on the bur-clover in April. A Braconid (*Lysiphlebus* sp.) was reared from parasitized specimens.

A. pomi (?) De Geer; Pear.

A dark green species agreeing with *A. pomi,* with the exception that cauda was black and the body dark olive green. Taken in large colonies on pear in May.

Aphis sp.; *Senecio mikanioides.*

Alate Female

Length of body 1.30 mm.; expanse of wings 5.2 mm.; antennæ joints III .3 mm., IV .22 mm., V .12 mm., VI .08 mm., VII .14 mm.; general color dark green; head and thoracic lobes black; eyes dark red; antennæ two thirds length of body, dark green; joints 3 and 4 strongly tuberculate, joints 3, 4 and 5 with small sensoria; abdomen green, paler below; on the dorsum, posterior to the cornicles, there are two cross-bands of dark green; cornicles short, barely exceeding the tarsi, slightly tapering to their apices, almost black; cauda short, green, pilose, globular; legs yellowish green, the joints darker, the tarsi green; veins and stigma brownish grey; insertions pale; veins thin, the discoidals obsolete at their bases; beak pale, reaching the abdomen.

The Apterous female is paler, with the thorax and head yellowish-green. The cornicles are short and pale; legs pale yellow, tarsi dusky; abdomen pale green; antennæ green, one third as long as the body. There is also a rufus form of the apterous viviparous female. Found during the year on *Senecio mikanioides*. It infests the younger shoots and leaves.

Aphis sp.;

A small doubtful species found on both Groundsel (*Senecio*) and *Amsinckia*. The apterous females are green throughout. The alate form has short black cornicles, black bars and spots on the dorsum of the abdomen and the head and thorax black.

Rhopalosiphum dianthi Schrank; *Sonchus.*

Taken in the fall on *Sonchus oleracea*, also on the celestial pepper in a greenhouse. I bred from this insect a very minute wingless dipterous parasite.

R. viola Pergande; *Viola.*

Found on the cultivated blue violet in May. This form seemed to serve as a link between Pergande's species and that of Essig (Pomona Journal of Entomology No. 1), having the characteristics of both, which appear to me like identical species, despite slight differences in descriptions.

Rhopalosiphum sp.; Almond.

On the stems of a young almond in May I found an aphid (apparently a *Rhapolosiphum*). This is a large red species.

Hyalopterus arundinis Faber; Plum.

In large quantities on the plum in May.

Myzus achyrantes Monell; *Malva parviflora.*

Found commonly on mallow (*M. parviflora*). I bred a small *Aphidius* from this species.

M. persica Sulz.; Peach.

On the peach and plum trees in May.

Drepanosiphum acerifolii Thos.; *Acer saccharinum.*

This beautiful species inhabits the leaves of the soft maple (*A. saccharinum*). The winged forms are very active and possess considerable jumping powers.

Siphocoryne salicis Monell; *Salix.*

Found in both the apterous and alate forms under the leaves of willow in April.

S. xylostei Schrank; *Lonicera.*

This European species infests the tips of branches of the honey-

suckle (*Lonicera*) and crowds the leaves in very great numbers, causing them to assume a very unsightly appearance.

Siphocoryne conii sp. nov.; *Conium maculatum.*

On the flower-stalks and leaves of the hemlock.

Alate Female

Head, thorax, cornicles, cauda, tarsi and apices of the tibiæ black; antennæ yellowish-green, a little over half the length of the body; joints 3–6 with sensoria; legs yellow; abdomen bright green; wings penciled over with dots; stigma and veins pale brown; cornicles black, not very incrassate, slightly exceeding the tarsi in length; cauda black, pilose, three fourths the length of the cornicles.

Apterous Viviparous Female

Green; body oval, broadest just behind the middle; antennæ yellow, one third the length of body; joint 3 equals the three following joints in length; eyes very dark red and small; legs yellow; femora and apices of tibiæ black; tarsi yellow; cornicles black, considerably more incrassate than in the winged form, reaching to tip of abdomen; cauda paler, four fifths the cornicles; beak short, not reaching second coxæ.

Length of body (alate) 1.2 mm.; (apterous) 2.75 mm. Length of cornicles (alate) .12 mm.; (apterous) .2 mm. Length of cauda (alate) .09 mm.; apterous) .16 mm. Breadth of body (apterous) 1.15 mm.; wing expanse 4.6 mm.; antennal joints (alate) III .2 mm., IV .12 mm., V .12 mm., VI .20 mm., VII .19 mm.

Parasitized by an *Aphidius.*

Macrosiphum sonchella Monell; *Sonchus oleracea.*

M. rosæ Linn.; *Rose.*

M. pisi Kaltenbach; *Urtica holosericæ* and *Lathyrus.*

M. californica Clarke; *Salix.*

Abundant on tips of willows in April.

M. sp.; *Lupinus* sp.

M. orthocarpus sp. nov.; *Orthocarpus* (owl clover).

Alate Female

Pea green; eyes pink; joints 3–7 of antennæ, tip of beak, distal two thirds of cornicles, tarsi, apices of femora and tibiæ black; thoracic lobes orange brown; lower side of thorax brown; antennæ slightly longer than the body; joint I is gray, three times as large as II, which is paler; joint III is longest; femora very pale (except the apex); tibiæ brown; abdomen, head, prothorax, base of cornicles, and cauda bright pea green; cornicles not quite reaching tip of cauda, cylindrical, .7 mm. in length; cauda, pointed, pilose, .35 mm. in length; wings long and narrow; stigma pale brown; insertions and subcosta green; veins deep brown; beak not quite reaching second coxæ; length of body 3 mm.; expanse of wings 8.5 mm.; breadth of body .95 mm.; antennal joints, III .85 mm., IV .6 mm., V .5 mm., VI .12 mm., VII .8 mm.

Apterous Viviparous Female

Bright pea green, larger than the alate form; antennæ and distal two thirds of cornicles black; body more than half as broad as long (excluding cauda); eyes red; antennæ reaching just beyond tip of cauda, black, except joints I, II and base of III very similar to that of the winged female; legs pale green; apices of tibiæ and tarsi dark brown; cornicles not quite reaching tip of cauda; cauda green, tapering, about one half the length of cornicles; beak short, barely reaching second coxæ, the tip black.

The young are very pale, with large red eyes and the distal antennal joint dusky. Found sparingly among the flower spikes of *Orthocarpus purpurascens* in April.

Scientific Notes

Stable Fly. In the Bulletin de la Société Nationale d'Acclimatation de France, March, 1909, Lucien Iches has published a very interesting article on *Stomoxys calcitrans* and Argentine cattle, giving the results of a brief investigation made by him last year in the province of Santa Fé, Argentina. *Stomoxys calcitrans* swarmed on a large estate in almost incredible numbers. The cattle were nearly driven crazy by them. Certain valuable Durham bulls which were observed were covered with flies, had lost their hair in large spots, and the skin was cracking. Monsieur Iches naturally sought at once for the principal breeding places of the flies, and found them to be in the stacks of debris from the threshing of wheat and flax. Larvæ and puparia were found by the millions in the lower portions of these piles of straw, where some fermentation had already begun. The sensible measure which he recommended was to have this debris burned within forty-eight hours after the completion of the threshing, the ashes being used for fertilizing purposes. It seems that there exists in the province of Santa Fé an old provincial law ordering the burning of the debris after threshing, but that it has not been enforced of late years. L. O. H.

Insects on Imported Nursery Stock. The discovery of the nests of the brown-tail moth on foreign importations of seedlings into the State of New York has prompted a very close inspection of nursery plantations this summer for caterpillars of this species, which might possibly have escaped treatment at the time of the planting of the stock in the nurseries. With this close supervision of nurseries, there have been found on foreign seedlings eggs of the Rusty Tussock Moth (*Notolophus antiqua* Linn.) and several colonies of the larvæ of the Little Ermine Moth (*Hyponomeuta padella* Linn.) which were feeding on cherries. These were collected and brought into our laboratory for identification by Messrs. Fred Wiley and John Maney respectively, who are official nursery inspectors.

According to Judeich and Nitsche, *H. padella* thrives on the service tree, wild plum, hawthorn, medlar and on various species of Pyrus. Theobald says that in England this species feeds normally on hawthorn, often quite defoliating hedgerows, and also attacks cherry and plum. In France it is said to subsist on cherry and plum and in Italy on plum.

P. J. Parrott.